User Manual

Bluetooth GPS Receiver

BT-308

BT-308 at a glance

Travel
charge adaptor
GPS
Car
charge adaptor
Bluetooth GPS receiver

1. Introduction

The BT-308 is a GPS receiver with **Bluetooth** interface and built-in active antenna for high sensitivity to tracking signal. Based on the SiRF star Ⅱe/LP low power chip set and supports all functions(SingleSat updates in reduced visibility, Superior urban canyon performance, FoliageLock for weak signal tracking, etc.). The BT-308 is well suited to system integration and users who use PDA, Smart phone, Tablet PC and Notebook PC with Bluetooth devices. It satisfies a wide variety of applications for car navigation, personal navigation or touring devices, tracking and marine navigation purpose.

1.1 Package

Before you start up, make sure that your package includes the following items. If any items are missing or damaged, contact your dealer immediately.

- Bluetooth GPS Receiver
- A CD with the User Manual and the Testing Program.
- AC Power Charger
- DC Car Power Charger
- External Antenna

1.2 Power Switch

Power on

Power off

1.3 Power Jack

The power jack lets you to connect either a DC car power charger (included) or AC power charger (included) to recharge the internal battery. You can either use the included two chargers or an iPAQ-compatible AC adapter. Please note that the adapter rating 5V, 1.2 A, positive pole center.

1.3 LED Function

Bluetooth Status LED (Blue):

Blinking (Slowly) ---- Not connected to any Bluetooth devices.

Blinking (Quickly) **----** Connected to other Bluetooth device.

GPS Status LED (Green):

Blinking ---- GPS position is fixed

Steady light ---- GPS position not fixed

Battery Status LED (Red/Yellow):

Red ---- Battery power is critically low. Charge immediately.

Yellow ---- Battery is charging now.

LED off ---- Battery partially full or Battery is fully charged.

1.4 External Antenna

Basically, you don't need external antenna to perform GPS positioning with BT-308 since it already build-in active antenna. The only condition that you need external antenna is when BT-308 unit can not "see" the sky, For instance, when you are in any environments that GPS signal is blocked, the external GPS antenna will help to receive better GPS signal.

Plug the external antenna with MMCX connector to the plug on BT-308. Place the magnetic external antenna on the roof of the car or an outdoor open-space, and make sure place it in correct direction. That is, the side with magnetic is the bottom side, and the upper side must face to sky in order to receive better signal.

Notice:

Hold the antenna connector while you plug the external antenna into the BT-308 or unplug the external antenna from the BT-308. Do not pull the cable line.

2. Usage

2.1. For PDA which built-in Bluetooth (Example: iPAQ 3870/3970)

1. Switch the BT-308 power on.

2. Please refer to the user manual of PDA to enable the Bluetooth of PDA connecting to the BT-308. Some PDAs may need the Bluetooth passkey, the passkey is **"2003".**

3. Check the number of COM port used by Bluetooth.(Example the iPAQ 3970 is the output port **COM 8**).

4. Running the suitable mapping/navigation software and select the **correct COM port(iPAQ** 3970 is the output port **COM 8)**& **baud rate : 38400**

2.2. For PDA with Bluetooth Compact Flash card

1. Switch the BT-308 power on.

2. Please refer to the user manual of Bluetooth Compact Flash card to enable it connecting to the BT-308. Some Bluetooth devices may need the Bluetooth passkey, the passkey is **"2003".**

3. Check the number of COM port used by Bluetooth.(Example **COM 6**).

4. Running the suitable mapping/navigation software and select the **correct COM port** & **baud rate : 38400.**

2.3. For Notebook with Bluetooth device

1. Switch the BT-308 power on.

2. Please refer to the user manual of Bluetooth device to enable it connecting to the BT-308. Some Bluetooth devices may need the Bluetooth passkey, the passkey is **"2003".**

3. Check the number of COM port used by Bluetooth.(Example **COM 6**).

4. Running the suitable mapping/navigation software and select the **correct COM port** & **baud rate : 38400.**

Note: Most of the applications, the Bluetooth device have an "auto-detect" feature that you do not need to select Baud Rate.

3. How to test your Bluetooth GPS Receiver ?

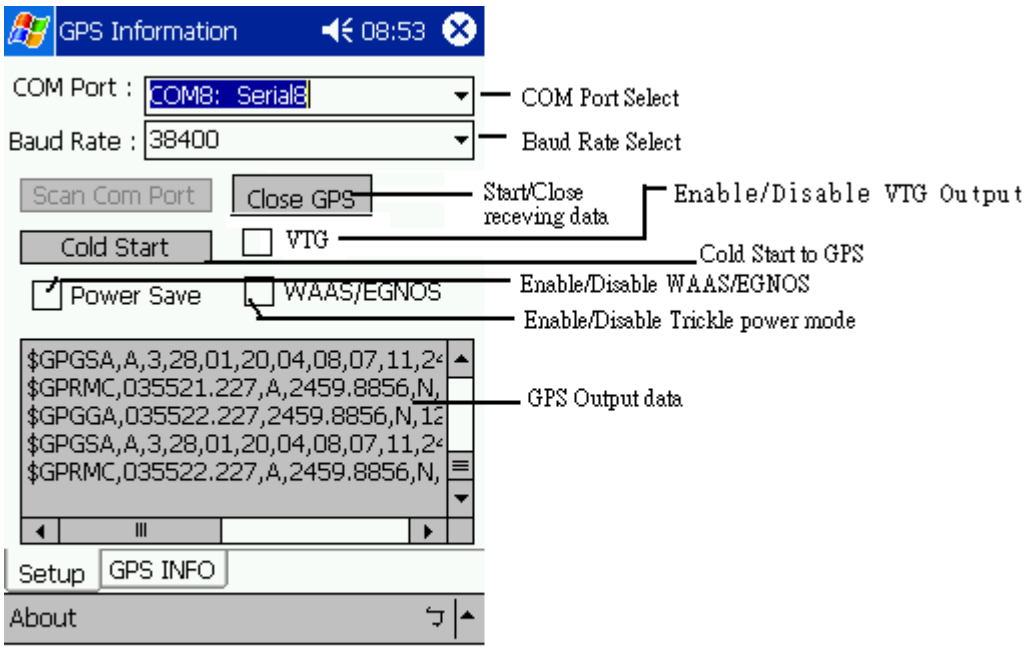
The testing program only supports the Microsoft Windows CE & Pocket PC based PDA platform.

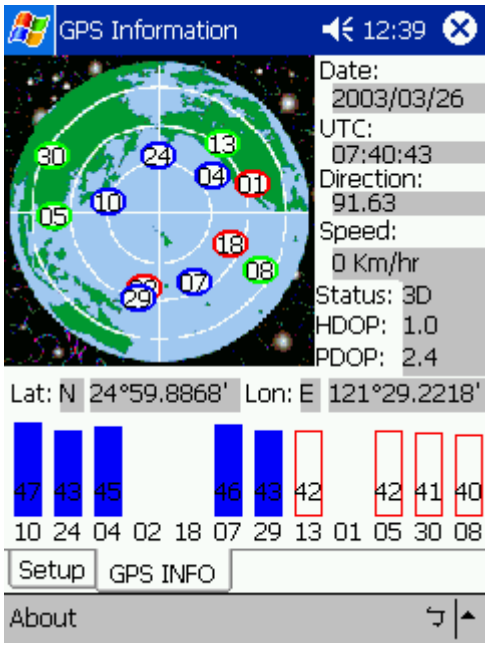
1. Run the “GPSinfo.exe” to execute the installation procedure of testing program (via PC and ActiveSync).

2. Run the “GPS Information” program from “Start → Program files” of PDA.

Here is the description of “GPS Information” testing program as follows:
User must select COM port , Baud Rate (38400) and click the [Star GPS] button to start receiving GPS data.

Note: Most of the applications, the Bluetooth device have an “auto-detect” feature that you do not need to select Baud Rate.





3. System Specification

Electrical Characteristics (Receiver)	
Frequency	L1, 1575.42 MHz
C/A Code	1.023 MHz chip rate
Channels	12
Sensitivity	-170 dBW
Accuracy	
Position Horizontal	15m 2D RMS (SA off)
WAAS enabled	10m 2D RMS (SA off)
Time	1 micro-second synchronized to GPS time
Velocity	0.1m/sec 95% (SA off)
Datum	
Datum	WGS-84
Acquisition Rate	
Hot start	8 sec., average (with ephemeris and almanac valid)
Warm start	38 sec., average (with almanac but not ephemeris)
Cold start	45 sec., average (neither almanac nor ephemeris)
Reacquisition	0.1 sec. average (interruption recovery time)
Protocol	
GPS Output Data	NMEA 0183 protocol, and supports command: GGA, GSA, GSV, RMC, VTG, GLL (VTG and GLL are optional)
GPS transfer rate	38400,N,8,1
Dynamic Condition	
Acceleration Limit	Less than 4g
Altitude Limit	18,000 meters (60,000 feet) max.
Velocity Limit	515 meters/sec. (1,000 knots) max.
Jerk Limit	20 m/sec**3

External antenna	
Power	3.3V
Connector	MMCX
Power	
Voltage	Built-in rechargeable battery(900 mAh) and 5V DC input charging circuit
Operation Time	8 hr. After fully recharged, in continuous mode >10 hr in trickle power mode
Physical Characteristics	
Dimension	85mm x 47mm x 26mm
Weight	98g
Temperature	
Operating	-20°~ 70°C
Storage	-30°~ 80°C
Humidity	Up to 95% non-condensing

3.1 Bluetooth Specification

- Bluetooth V1.1 Compliant
- Supply Voltage : 2.8V ~ 3.3V
- Frequency Range : 2.402 ~ 2.480 GHz
- Receiver Sensitivity : -80 dBm
- Transmit Power : Class 2
- Transmitting Range : 3 ~10 m (Depends on environment)
- Power Consumption : 45 mA (Typical)

FCC Notices

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1)This device may not cause harmful interference, and

(2)This device must accept any interference received, including interference that may cause undesired operation .

FCC RF Exposure requirements:

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.